
Analysis of Self-Efficacy and Academic Achievement of Elementary School Teachers in Zanjanrood Area, Zanjan, Iran

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ABSTRACT

This study aimed to investigate the correlation between teachers' self-efficacy and primary school sixth grade students' educational motivation and educational achievement in Zanjanrood. This was applied descriptive-correlational study. The population consisted of all primary school sixth grade teachers in Zanjanrood in 2015-2016 (N= 62; 35 women and 27 men). According to Morgan table, the sample size was determined to be 52 people. For increase of data validity, all 62 teachers were selected as sample. The research tool included Harter's Educational Motivation Questionnaire and Tschannen's Self-efficacy Questionnaire. The students' math scores average in first term was used the educational achievement. The content validity of questionnaires was confirmed; using Cronbach' Alpha, the reliability of questionnaires was determined to be to be 0.87 and 0.92, respectively. The descriptive and inferential (Pearson correlation coefficient, independent t-test, one-way ANOVA, and multiple variable regression) statistics were used for analyzing the data. The findings showed that there was a significant correlation between teachers self-efficacy components (engaging students in learning, teaching strategies, and classroom management style) and students' educational motivation (internal and external) components and educational achievement. The findings indicated that there was no difference in teachers' self-efficacy considering their gender, age, experience, and education level. There was no difference in students' motivation considering teachers' gender, age, and experience, except their education. Also, there was no difference in educational achievement of students considering teachers' gender, experience, and education, except the age. The teachers' self-efficacy components predicted students' educational motivation and educational achievement. The findings showed that there was positive correlation between teachers' self-efficacy and students' educational motivation and educational achievement.

Keywords: Teachers' Self-efficacy, Educational Motivation, Educational Achievement.

INTRODUCTION

The education is defined as a process which aims to change the behavior of students based on specific goals. In this process, teacher creates conditions to achieve desired changes in student behaviors (Fathi, 2010). The increased educational motivation and achievement is one of the favorable changes which is created in students by teachers. The educational achievement is one of the important evaluation indicators in education system. The studies have shown that the teachers' self-efficacy is one of the factors affecting the performance of teachers and their teaching strategies which may directly impact on students' educational motivation and achievement (Fathi, 2010). The self-efficacy is one of the personality characteristics of teachers. It is defined as belief in one's ability to understand a specific behavior or conduct a successful job (Cassidy & Eachus, 1998, quoted by kurbanoglu et al., 2006). The teacher's self-efficacy is defined as teachers' judgment about themselves in obtaining desired results in activities and learning of students. It believed that these beliefs affect the educational activities of teachers (Bandura, 1997). The teachers' self-efficacy is their judgment about their ability to create positive outcomes for activities and learning of students and engaging them in educational affairs, despite their problems (Tschannen & Woolfolk, 2001). The research in the past 30 years show that the high self-efficacy in teaching impacts positively on educational outcomes and learning. Also, the high self-efficacy of teachers is associated with high educational achievement of students (Ashton & Webb, 1986). The teachers' self-efficacy is associated with motivation of students (Fathi, 2010). According to above, this study aims to answer this question: Is there relationship between primary school sixth grade teachers' self-efficacy and students' educational motivation and educational achievement?

METHODOLOGY

This study aimed to investigate the correlation between teachers’ self-efficacy and primary school sixth grade students’ educational motivation and educational achievement in Zanzanrood. This was applied descriptive-correlational study. The population consisted of all primary school sixth grade teachers in Zanzanrood in 2015-2016 (N= 62; 35 women and 27 men). According to Morgan table, the sample size was determined to be 52 people. For increase of data validity, all 62 teachers were selected as sample.

The research tool included Harter’s Educational Motivation Questionnaire and Tschannen’s Self-efficacy Questionnaire. The students’ math scores average in first term was used the educational achievement. The content validity of questionnaires was confirmed; using Cronbach’ Alpha, the reliability of questionnaires was determined to be to be 0.87 and 0.92, respectively. The descriptive and inferential (Pearson correlation coefficient, independent t-test, one-way ANOVA, and multiple variable regression) statistics were used for analyzing the data.

Findings

First hypothesis: There is correlation between teachers’ self-efficacy and primary school sixth grade students’ educational motivation and educational achievement in Zanzanrood.

Hypothesis test: The Pearson correlation coefficient was used to examine the correlation between teachers’ self-efficacy and students’ educational motivation and educational achievement, considering the variables and data distribution. The results are reported in table below.

Table1. Results of Pearson test

	Pearson correlation coefficient	Educational motivation	Educational achievement
Teachers’ self-efficacy	Correlation coefficient	0.644	0.462
	Significance level	0.002	0.006
	Number	62	62

According to above table, the Pearson correlation coefficient for teachers’ self-efficacy and students’ educational motivation is 0.644 and is significant below 0.01. Also, according to above table, the Pearson correlation coefficient for teachers’ self-efficacy and students’ educational achievement is 0.462 and is significant below 0.01. With confidence level of 99%, therefore, it can be said that there is correlation between teachers’ self-efficacy and students’ educational motivation and educational achievement. Therefore, this hypothesis is confirmed; there is correlation between teachers’ self-efficacy and students’ educational motivation and educational achievement. Since the sign of Pearson correlation coefficient is positive, the correlation between these variables is direct and increasing. If teachers’ self-efficacy increases, the educational motivation and educational achievement of students will also increase.

Second hypothesis: There is correlation between engaging students in learning and their external motivation.

Hypothesis test: The Pearson correlation coefficient was used to examine the correlation between engaging students in learning and their external motivation, considering the variables and data distribution. The results are reported in table below.

Table2. Results of Pearson test

	Pearson correlation coefficient	External motivation
Engaging students in learning	Correlation coefficient	0.448
	Significance level	0.000
	Number	62

According to above table, the Pearson correlation coefficient is 0.448 and is significant below 0.01. With confidence level of 99%, therefore, it can be said that there is correlation between engaging students in learning and their external motivation. Therefore, this hypothesis is confirmed; there is correlation between engaging students in learning and their external motivation. Since the sign of Pearson correlation coefficient is positive, the correlation between these variables is direct and increasing. If engaging students in learning increases, their external motivation will also increase.

Third hypothesis: There is correlation between teaching strategies and students’ external motivation.

Hypothesis test: The Pearson correlation coefficient was used to examine the correlation between teaching strategies and students’ external motivation, considering the variables and data distribution. The results are reported in table below.

Table3. Results of Pearson test

Pearson correlation coefficient		External motivation
Teaching strategies	Correlation coefficient	0.445
	Significance level	0.000
	Number	62

According to above table, the Pearson correlation coefficient is 0.445 and is significant below 0.01. With confidence level of 99%, therefore, it can be said that there is correlation between teaching strategies and students’ external motivation. Therefore, this hypothesis is confirmed; there is correlation between teaching strategies and students’ external motivation. Since the sign of Pearson correlation coefficient is positive, the correlation between these variables is direct and increasing. If teaching strategies are improved, the students’ external motivation will increase.

Fourth hypothesis: There is correlation between classroom management style and students’ external motivation.

Hypothesis test: The Pearson correlation coefficient was used to examine the correlation between classroom management style and students’ external motivation, considering the variables and data distribution. The results are reported in table below.

Table4. Results of Pearson test

Pearson correlation coefficient		External motivation
Class management style	Correlation coefficient	0.341
	Significance level	0.007
	Number	62

According to above table, the Pearson correlation coefficient is 0.341 and is significant below 0.01. With confidence level of 99%, therefore, it can be said that there is correlation between classroom management style and students’ external motivation. Therefore, this hypothesis is confirmed; there is correlation between classroom management style and students’ external motivation. Since the sign of Pearson correlation coefficient is positive, the correlation between these variables is direct and increasing. If teachers’ self-efficacy in classroom management style increases, the students’ external motivation will increase.

Fifth hypothesis: There is correlation between teaching strategies and students’ educational achievement.

Hypothesis test: The Pearson correlation coefficient was used to examine the correlation between teaching strategies and students’ educational achievement, considering the variables and data distribution. The results are reported in table below.

Table5. Results of Pearson test

Pearson correlation coefficient		Educational achievement
Teaching strategies	Correlation coefficient	0.448
	Significance level	0.014
	Number	62

According to above table, the Pearson correlation coefficient is 0.448 and is significant below 0.05. With confidence level of above 95%, therefore, it can be said that there is correlation between teaching strategies and students’ educational achievement. Therefore, this hypothesis is confirmed; there is correlation between teaching strategies and students’ educational achievement. Since the sign of Pearson correlation coefficient is positive, the correlation between these variables is direct and increasing. If teachers’ self-efficacy in teaching strategies increases, the students’ educational achievement will increase.

Sixth hypothesis: The teachers 'self-efficacy and students’ educational motivation and educational achievement is different considering teachers' age.

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Hypothesis test: Since the difference in self-efficacy of teachers is evaluated based on their gender (male and female), therefore, the independent T-test was used; the results are provided in table below:

Table6. Results of independent T-test

Variable	Gender	Number	Mean	Standard deviation	Degree of freedom	t-value	Mean difference	Sig. level
Self-efficacy	Female	35	94.771	11.491	60	0.39	1.068	0.696
	Male	27	93.703	9.3595				
Educational motivation	Female	35	110.485	11.569	60	0.04	0.115	0.968
	Male	27	110.370	10.817				
Educational achievement	Female	35	1.86	0.733	60	-1.195	0.058	0.237
	Male	27	2.07	0.675				

According to above table, the t-test is not significant at level 0.05 for evaluation of teachers' self-efficacy and students' educational motivation and educational achievement based on teachers' gender. So, there is no significant difference between male and female teachers in terms of teachers' self-efficacy and students' educational motivation and educational achievement.

Seventh hypothesis: The teachers' self-efficacy components may predict students' educational achievement.

Hypothesis test: The multivariate regression methods was used to predict the educational achievement of students through self-efficacy components.

Table7. Results of regression model

Model	R-value	R-squared	Adjusted R-squared	Estimation error rate
1	0.160 (a)	0.22	0.025	0.719

According to above table, the coefficient of determination is 0.22. This means that the self-efficacy components predict 22% of variance in educational achievement of students.

Table8. One-way ANOVA to assess the significance of model

Model	Regression Indicators	Sum of squares	Degree of freedom	Mean of square	F-value	Sig. level
1	Regression value	0.872	3	0.291	0.562	0.042 (a)
	Remained value	29.983	58	0.517		
	Total	30.855	61			

According to above table, the prediction model is significant below 0.05 and is valid above 95%.

Table9. Coefficients and constant value of model

Regression Indicators	Non-standard coefficient		Standard coefficient	t-value	Sig. level
	B-value	Standard error	Beta		
Constant value	1.723	0.933	-	1.874	0.000
Engaging students in learning	0.53	0.046	0.298	1.157	0.001
Teaching strategies	0.12	0.039	0.069	0.310	0.011
Class management style	0.038	0.039	0.189	0.963	0.030

According to above table, the coefficient of determination is 0.22. This means that the self-efficacy components predict 22% of variance in educational achievement of students. As can be seen, the engagement of students in learning has the highest share in predicting students' educational achievement.

CONCLUSION

The students' educational achievement is one of education and training objectives. The results of teachers' educational activities is reflected in students' educational achievements. The teachers' self-efficacy is their beliefs in their abilities to affect students' performance. The teachers with high self-efficacy spend more time in designing and organizing class activities and are more willing to educate. The teachers with high self-efficacy are more responsible for their students' performance.

According to findings, it was shown that there is correlation between teachers’ self-efficacy and students’ educational motivation and educational achievement. The teachers with high self-efficacy were able to engage students more in learning, use teaching strategies , and manage the classroom. Creating internal and external motivation in students, the teachers increased the students’ educational achievement in various subjects, particularly in mathematics. The findings showed that the teachers’ self-efficacy is more associated with educational internal motivation than external motivation. Also, Gibson and Dembo (1984) argued that the teachers with high self-efficacy may encourage students for more effort and use appropriate teaching methods.

Therefore, the teachers with high self-efficacy care more about students and have high expectations of students’ behaviors, considering their individual differences. In addition, the teachers with high self-efficient encourage students to understand and use different visual tools to make the discussions more interesting and meaningful and eliminate misconceptions about a topic. This study was conducted on normal schools’ teachers. The findings showed that the teachers’ self-efficacy is directly associated with students’ internal and external motivation. The students with high motivation and achievement do not rely on teachers’ self-efficacy; they always have a positive feeling about their abilities and potentials. However, the self-efficacy of teachers impacts strongly on normal and unapt students; these students feel less positive about their educational competencies, expect less to develop in future, are motivated externally, and are vulnerable to changes in self-efficacy of their teachers. Gibson and Dembo (1984) stated that a teacher with high self-efficacy is a role model in class and uses appropriate training and management methods to create favorable climate for positive interaction between him/herself and students in class. Perceiving this self-efficacy, the students get the motivation to use effective learning strategies.

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